CALS TEST NETWORK

AFCTN Test Report 93-031

AFCTB-ID 92-049

Raster Transfer Test

using:

Industrial Data Link's Data

MIL-R-28002A (Raster)

Quick Short Test Report

31 August 1992

Prepared for

Electronic Systems Center

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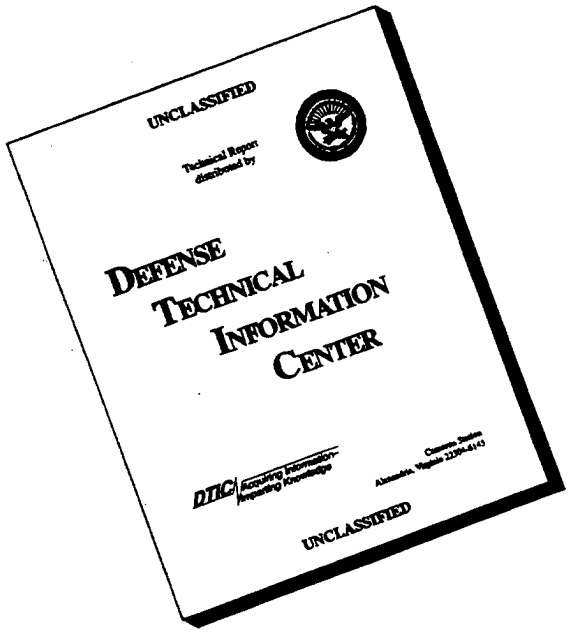

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Prepared By
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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life- Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, required specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the may systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the may requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.
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1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Industrial Data Link's interpretation and use of the CALS standards in transferring Raster data. Industrial Data Link used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 92-049

Date of Evaluation: 31 August 1992

Evaluator:
George Elwood
Air Force CALS Test Bed
HQ ESC/ENCP
Suite 200
4027 Colonel Glenn Hwy
Dayton OH 45431-1672

Data Originator:
Industrial Data Link
William Largent
3949 Ruffin Road
San Diego CA 92123

Data Description:
Technical Manual Test
1 Document Declaration file
2 Raster files

Data Source System:

Raster

HARDWARE
Unknown

SOFTWARE
Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN *Tapetool v1.2.8 UNIX*
AGFA Compugraphics *CAPS/CALS v40.4*

MIL-R-28002 (Raster)

SUN SparcStation 2

ArborText *g42tiff*
AGFA Compugraphics *CAPS ccitt2caps v6.0x*
AFCTN *validg4*
AFCTN *calstb.475*
Island Graphics *IslandPaint v3.0*
Rosetta Technology *Preview v3.1*

Cheetah

Inset Systems *HiJaak v2.02*
Software Publishing Corporation (SPC) *Harvard Graphics v3.0*
Xerox *Ventura Publisher*

Standards Tested:

MIL-STD-1840A
MIL-R-28002A

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was not marked with the magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was not enclosed in a barrier bag or barrier sheet material as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files that were recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the Air Force CALS Test Bed contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The 1840A tape was run through the AFCTB *Tapetool v1.2.8* utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was also read using AGFA's *CAPS read1840A* without a reported error.

3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file or the data file header records.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on the tape.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included on the tape.

6. Raster Analysis

Both Raster images were checked using the AFCTN *validg4* utility. No errors were reported. Both files were viewed using the AFCTN *calstb.475* utility. Both of the images were displayed without a problem.

The files were converted using Rosetta Technologies' *Prepare* and then viewed and printed using *Preview* without a problem. The resulting hard copies are included in the Appendix of this report.

The files were converted using ArborText's *ADEPT g42tiff* utility with no reported problems. The resulting files were viewed and printed using Island Graphics' *IslandPaint.* The resulting hard copies are included in the Appendix of this report.

The files were converted to an IMG format using Inset Systems' *HiJaak* with no reported errors. The resulting files were imported in the Xerox *Ventura Publisher* and printed with no reported problems. The resulting hard copies are included in the Appendix of this report.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included on this report.

8. Conclusions and Recommendations

In summary, the MIL-STD-1840A tape from Industrial Data Link was basically correct. The tape could be read properly using the AFCTN *Tapetool* utility without any reported errors. The tape was also read using AGFA's *CAPS* utility without any reported errors.

The two Raster files are valid files and could be used by all of the software tools available in the AFCTB without any reported problems. The Raster files meet the CALS MIL-R-28002A specification.

The tape from Industrial Data Link meets the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

```
Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon Aug 31 15:13:09 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set082

                                                                    Page: 1
```

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001R001	Raster	F/00128	02048/000011	Extracted
D001R002	Raster	F/00128	02048/000010	Extracted

```
Catalog Process terminated normally.
```

9.2 Tape Evaluation Log

```
Air Force CALS Test Network Tape Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

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ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CALS01                                                              4

  Label Identifier: VOL1
  Volume Identifier: CALS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001            CALS0100010001000000 92227 00000 000000

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date:  92227
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:

HDR2D0204800260                                    00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00
```

```
************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

************ Tape Mark ***************

EOF1D001            CALS0100010001000000 92227 00000 000001

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date:  92227
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000001
  Implementation Identifier:

EOF2D0204800260                                  00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

************ Tape Mark ***************

HDR1D001R001        CALS0100010002000000 92227 00000 000000

  Label Identifier: HDR1
  File Identifier: D001R001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date:  92227
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:
```

```
HDR2F0204800128                                    00

  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

********** Tape Mark **********

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 11.

********** Tape Mark **********

EOF1D001R001        CALS0100010002000000 92227 00000 000011

  Label Identifier: EOF1
  File Identifier: D001R001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date:  92227
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000011
  Implementation Identifier:

EOF2F0204800128                                    00

  Label Identifier: EOF2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

********** Tape Mark **********

                          <<<<< PART OF LOG REMOVED HERE >>>>>

********** Tape Mark **********

############ End of Volume CALS01 ##############

############ End Of Tape File Set ##############
```

```
Deallocating /dev/rmt0...

Tape Import Process terminated normally.
```

9.3 Tape File Set Validation Log

```
Air Force CALS Test Network File Set Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28002 (1989) - Raster Graphics Representation In Binary
                         Format, Requirements For

Mon Aug 31 15:13:09 1992

MIL-STD-1840A File Set Evaluation Log

File Set: Set082

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: Industrial Data Link Corporation
srcdocid: fake1
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19920814
dstsys: Air Force CALS Test Bed
dstdocid: fake2
dstrelid: NONE
dtetrn: 19920814
dlvacc: NONE
filcnt: R2
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Technical Publication
docttl: NONE

Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
```

```
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 000,270
rpelcnt: 001500,000970
rdensty: 0300
notes: NONE

Found file: D001R002
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 000,270
rpelcnt: 001500,000970
rdensty: 0300
notes: NONE

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

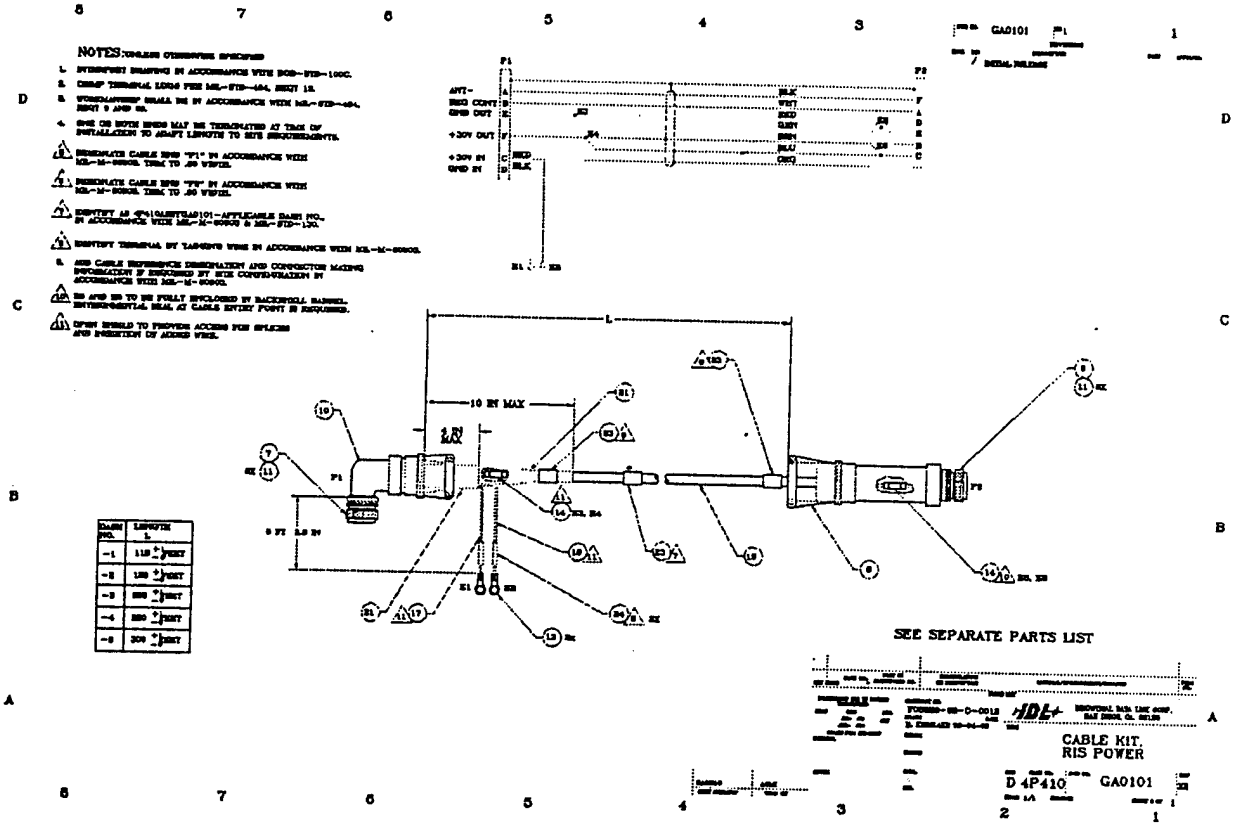
9.4 Other Tape Reading Logs

No reported errors.

10. Appendix B - Detailed Raster Analysis

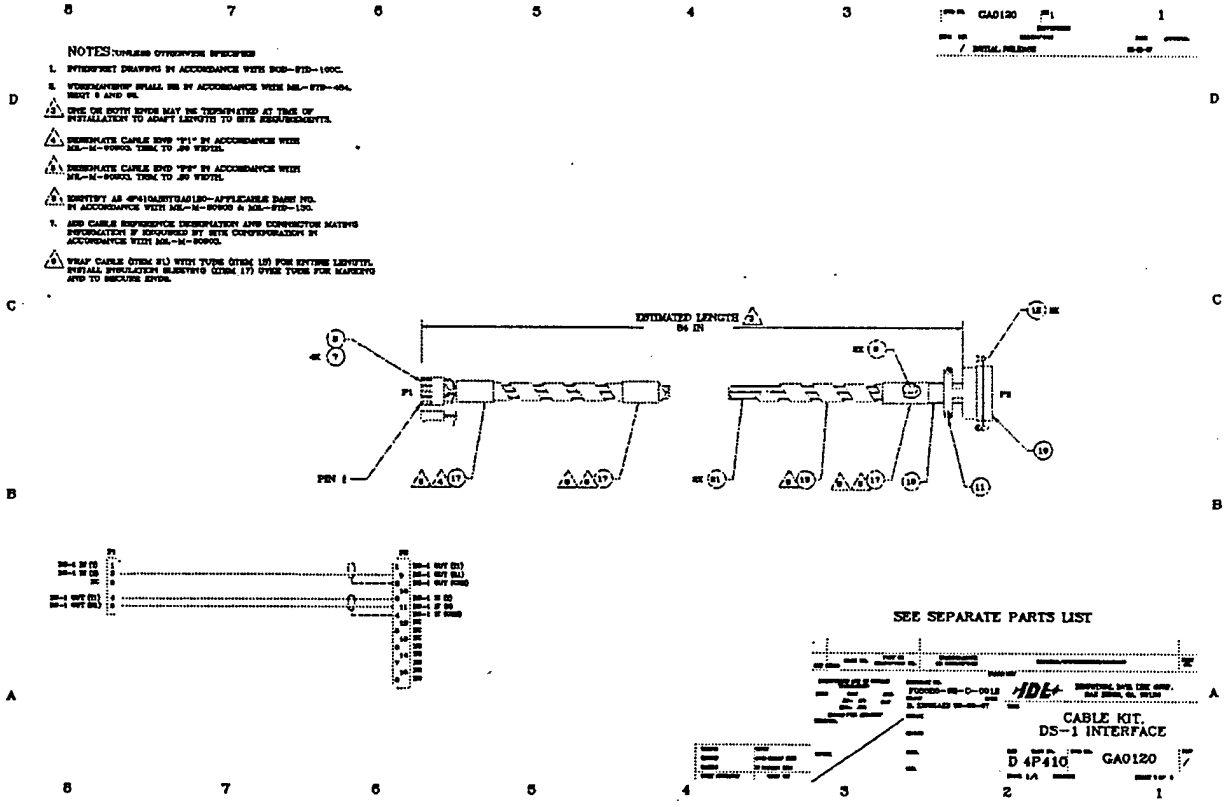
10.1 File D001R001

10.1.1 Output Preview

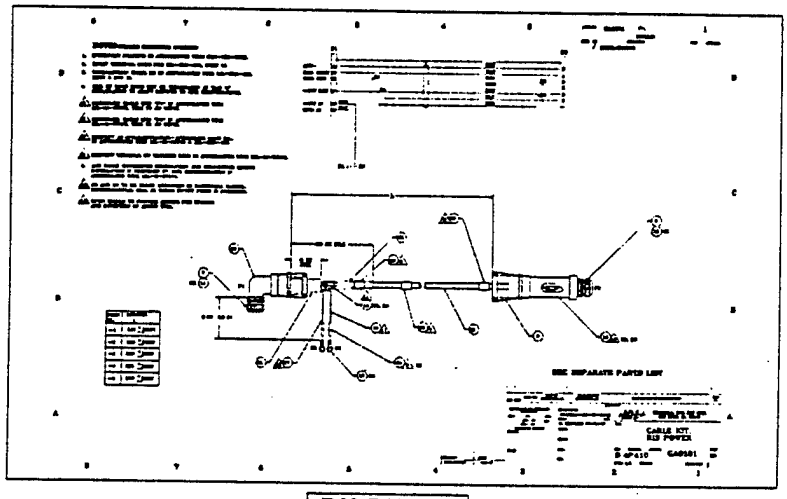


10.2 File D001R002

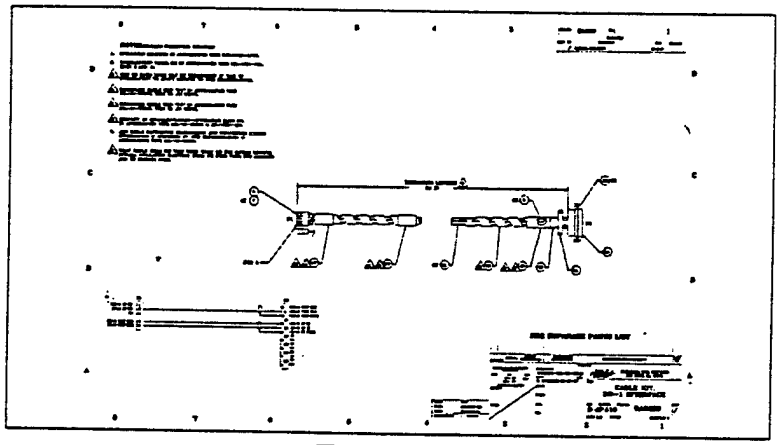
10.2.1 Output Preview



10.2.2 Output Ventura Publisher - Both Files



D001R001



D001R002

10.2.3 Output IslandPaint - Both Files